Introduction to the Climate Action Reserve and California Offsets for Compliance Buyers

Webinar
December 1, 2011
The Reserve: Background and History

• Nonprofit organization founded as the California Climate Action Registry by state legislation in 2001
  – Encourage actions to reduce emissions
    • By developing protocols to track GHG emissions and reductions and having those emissions verified and publicly reported

• Renamed and expanded in 2008
  – Mission remains to encourage actions to reduce emissions
The Reserve: At A Glance

- Headquartered in Los Angeles
- A 501(c)3 nonprofit organization
- Employ 27 full time staff
- Registry software system built and maintained by NYSE Blue
- Annual Budget: $3.7 Million
Board of Directors

- Linda Adams, California EPA (ret.) - Chairman of the Board
- Peter Miller, NRDC – Board Secretary
- Jeff Kightlinger, Metropolitan Water District – Board Treasurer
- Randy Armstrong, Shell Oil Company
- Steve Corneli, NRG Energy
- Cynthia Cory, California Farm Bureau Federation
- Dr. Francisco Barnes, National Institute of Ecology (Mexico)
- Peter Liu, New Resource Bank
- James Mack, British Columbia Ministry of Environment (Canada)
- Nancy McFadden, Office of the Governor of California
- Betsy Moler, Federal Energy Regulatory Commission (ret.)
- Tim Profeta, Nicholas Institute at Duke University
- Jan Schori, Sacramento Municipal Utility District (ret.)
- Stephan Schwartzman, Environmental Defense Fund
Our Principle Objectives

• Ensure that emission reduction credits (offsets) have true environmental integrity

• Show that carbon offsets can be a useful tool in addressing climate change

• Provide a offset registry that is rigorous while streamlined and user-friendly

• Link voluntary carbon markets with emerging compliance markets (CA C&T, WCI, RGGI…)

• Provide expertise on offset standards and policy
Offset Integrity

- **Real**
  - Can be measured to a high degree of accuracy
  - Is based on an activity that has occurred, not one that is projected to occur in the future

- **Additional**
  - Occurs outside of any regulatory requirement
  - Would not have occurred but for the incentive provided by a GHG market

- **Verifiable**
  - Can be (and has been) independently verified

- **Enforceable**
  - Ownership is undisputed and enforcement mechanisms exist to ensure all program rules are followed

- **Permanent**
  - Is removed from the atmosphere for a minimum of 100 years
What We Do

1. Develop High Quality Standards
   – Convene stakeholders and lead development of standardized protocols for carbon offset projects
     *(Real, Permanent, Additional)*

2. Manage Independent Third Party Verification
   – Training and oversight of independent verification bodies
     *(Verifiable)*

3. Operate a Transparent Registry System
   – Ensure ownership to emission reductions
   – Maintain a public registry of approved projects
   – Issue and track serialized credits generated by projects
     *(Enforceable)*
What makes the Reserve different?

Recognition

Recognized and Supported by:

• California Air Resources Board
• States of Pennsylvania and New Mexico
• Verified Carbon Standard (VCS)
• Leading environmental organizations:
  – Environment America
  – Natural Resources Defense Council (NRDC)
  – Environmental Defense Fund
  – Sierra Club
  – Wilderness Society
What makes the Reserve different?

Transparency

• Unparalleled transparency makes the Reserve unique

• Public reports include:
  – All protocols and associated documents
  – List of all account-holders
  – List of all projects and all project documents
  – List of all issued CRTs for every project
  – All retired CRTs
What makes the Reserve different?

**Performance Standard**

- Why a performance standard is different
  - The hard work is upfront
  - Assess industry practice as a whole, rather than individual project activities
- Minimize transaction costs
- More certainty in amount of credits
- Lower risk for developers and investors
- Faster project processing
What makes the Reserve different?

**Separation of Roles**

- Is not affiliated with the State of California
- Reserve does not fund or develop projects
- Does not take ownership of offsets
- Is not an exchange
- Is a 501(c)3 not-for-profit organization
- Independent third-party verification
  - Consistent with international standards
  - Accreditation done by ANSI
  - Assiduous oversight of verifiers
What makes the Reserve different?

Linking Multiple Markets

- CRTs are purchased by buyers in different markets for a variety of reasons
- Primary market is California cap-and-trade buyers
- Western Climate Initiative
- CEQA compliance
- Voluntary corporate buyers
- Retailers/individual voluntary buyers
Our Protocols

• Developed with broad public input

• Goal is to create a uniform standard that is widely recognized and builds on best practice
  – We incorporate the best elements of other protocols
  – We do not adopt methodologies from other sources (i.e. CDM, Gold Standard, VCS, project developers, etc.)

• Designed as step-by-step instructions on project implementation
Existing Protocols

- **Forestry** (Reforestation, Improved Forest Management, Avoided Conversion)
- **Urban Forestry**
- **Livestock Methane Capture**
- **Ozone Depleting Substances (US)**
  - Landfill Gas Capture
  - Organic Waste Digestion
  - Coal Mine Methane
  - Nitric Acid Production
  - Organic Waste Composting
  - Livestock Methane Capture (Mexico)
  - Landfill Gas Capture (Mexico)
  - Ozone Depleting Substances (Article 5 Countries)

ARB Approved
Reserve Stats

- CRTs registered: 18.5 million
- CRTs retired: 2.8 million (14%)
- Account holders: 404
- Projects submitted: 481
  - Registered: 117
- U.S. States with Projects: 44
CRTs Registered by Project Type

Total CRTs Registered by Project Type

- Landfill: 7,489,107
- Livestock: 44,457
- Conservation-Based Forest Management/IFM: 313,535
- Avoided Conversion: 145,639
- Nitric Acid Production: 1,715,499
- Coal Mine Methane: 2,519,491
- Ozone Depleting Substances - US: 63,949
- Ozone Depleting Substances - Article 5: 2,684,269
- Organic Waste Digestion: 3,837,701
Cap-and-Trade in California

- AB32 passed in 2006
  - Basic CA law on climate—Reduce to 1990 baseline by 2020
- Cap-and-trade regulation adopted by California Air Resources Board in Dec 2010
  - Final version expected to be adopted by board on October 20
- Program begins Jan 1, 2013 and runs through 2020
- Divided into three compliance periods
  - Narrow scope for 1st period: ~600 largest industrial sources
    - First compliance deadline: November 1, 2014
  - Broad scope beginning Jan 1, 2015
The Reserve in the California Cap and Trade Program

• Four Climate Action Reserve project protocols have been adopted by ARB
  – We expect others to be considered early next year

• The Reserve expects to be formally approved by ARB as an Offset Registry next year
  – May be others as well

• Early-Action Offsets
  • Projects under four approved protocols of vintages 2005-2014, listed by February 2015
  • Must go through additional desk verification
## California Carbon Market

<table>
<thead>
<tr>
<th>Compliance Period</th>
<th>Year</th>
<th>Allowance Budget (mt CO₂e)</th>
<th>Total Offset Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First</strong> (narrow scope)</td>
<td>2013</td>
<td>162,800,000</td>
<td>26,800,000</td>
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<tr>
<td></td>
<td>2014</td>
<td>159,700,000</td>
<td></td>
</tr>
<tr>
<td><strong>Second</strong> (broad scope)</td>
<td>2015</td>
<td>394,500,000</td>
<td>91,784,000</td>
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<tr>
<td></td>
<td>2016</td>
<td>382,400,000</td>
<td></td>
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<tr>
<td></td>
<td>2017</td>
<td>370,400,000</td>
<td></td>
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<tr>
<td><strong>Third</strong></td>
<td>2018</td>
<td>358,300,000</td>
<td>83,104,000</td>
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<tr>
<td></td>
<td>2019</td>
<td>346,300,000</td>
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<tr>
<td></td>
<td>2020</td>
<td>334,200,000</td>
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Offsets for Compliance

• Compliance obligation can be fulfilled with a mix of allowances and offsets

• Up to 8% of compliance obligation can be fulfilled with offsets
  – Example: If your emissions are 1 million mtCO$_2$e, then you can use up to 80,000 offsets for that period

• Offsets can only come projects under approved protocols

• Project must be registered with CARB or a CARB-approved registry
  – If registered with a registry, then credits must be retired/canceled and reissued by CARB
Pricing for California Carbon Compliance Instruments

Recent data from Evolution Markets and Green Exchange
Compliance Protocols

- **Forestry**: biological sequestration in forests for 100 years
  - Improved Forest Management
  - Reforestation
  - Avoided Conversion
- **Urban Forestry**: sequestration in urban tree plantings for 100 years
- **Livestock**: capture and destruction of methane from manure using anaerobic digestion
- **ODS**: destruction of potent GHGs from appliances and foams from U.S. sources
Protocols In Progress

• Forestry Project Protocol (Mexico)
  • following a nested REDD+ approach

• Agriculture
  – Rice Cultivation
  – Nitrogen Management
  – Cropland Management

• Others Under Consideration
  – Energy Efficiency and Renewables in Mexico
  – Adaptation to Canada
How it Works: The Reserve Process

- Open an account
- Submit project
- Reduce emissions
- Verify the reductions

Each reporting period

Registered CRTs issued

Hold, sell, or retire CRTs
Fee Structure

• Account Maintenance: $500/year
• Project Listing: $500/project
• CRT Issuance: $0.20/tonne
• CRT Transfer: $0.03/tonne
• Retirement: Free
The Participants

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<tr>
<th>Emitters</th>
<th>Finance</th>
<th>Oversight</th>
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<tr>
<td>• Voluntary buyers of credits</td>
<td>• Project developers</td>
<td>• Standards development</td>
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<tr>
<td>• Compliance buyers of credits</td>
<td>• Brokers</td>
<td>• Registries</td>
</tr>
<tr>
<td>• Generators of credits (sources of emissions reductions)</td>
<td>• Retailers</td>
<td>• Regulatory Agencies</td>
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<tr>
<td>EXAMPLES</td>
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<td>• Pacific Gas &amp; Electric</td>
<td>• TerraPass</td>
<td>• Climate Action Reserve</td>
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<td>• United Parcel Service</td>
<td>• The Climate Trust</td>
<td>• Chicago Climate Exchange</td>
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<td>• News Corporation</td>
<td>• Evolution Markets</td>
<td>• California Air Resources Board</td>
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<tr>
<td>• Dairy farmers</td>
<td>• 3Degrees</td>
<td>• Scientific Certification Systems</td>
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<tr>
<td>• Forest owners</td>
<td>• Blue Source</td>
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Verification

• Verification bodies (VBs) must get accredited to ISO standards by American National Standards Institute (ANSI)

• Lead Verifiers must take protocol-specific and general Reserve training and demonstrate competency

• VB submits NOVA/COI form and if approved proceeds to verification activities

• Developer hires an accredited and trained VB
  – VB assesses project and documentation and makes determination as to the accuracy of reported CRTs
  – Project documents, verification report and verification opinion submitted to the Reserve for review and approval
Buying & Selling CRTs

- Must have an account with the Reserve to hold CRTs
- No financial transactions within the system, only transfers between accounts
  - Not a trading exchange for spot transactions
- Forward sales are very common
- How to trade?
  - Purchase directly from a project developer
  - Purchase through a Trader/Broker/Retailer
  - Purchase futures on an exchange
Buyer Liability

• CARB may find that an offset is invalid if
  – Amount of credits is overstated by more than 5%
  – Project is not in accordance with all local, state, and national environmental, health and safety regulations during reporting period
  – Credits have been issued by another program for the same period

• If found invalid, CARB will remove the offsets from the account where they are currently located, whether retired or active
  – Except forest projects, for which forest owner is required to replace any retired credits
Buyer Liability - Time Frame

CARB can find credits invalid within **eight years**, except for the following:

- For Livestock, Forest and Urban Forest, liability is only for **three years** if the project is verified by a different verifier within three years.

- For ODS, liability is only **three years** if it is re-verified by a second verifier within that time.
  - ODS projects have only a one-year crediting period
Questions?
Contact Information

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